

AMENDED IN ASSEMBLY MARCH 25, 2014

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

**ASSEMBLY BILL**

**No. 2110**

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**Introduced by Assembly Member Ting**  
**(Coauthors: Assembly Members Ammiano and, Brown, and**  
**Gonzalez)**

February 20, 2014

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An act to add Section 51211 to the Education Code, relating to pupil instruction.

LEGISLATIVE COUNSEL’S DIGEST

AB 2110, as amended, Ting. Pupil instruction: computer science.

Existing law requires the Instructional Quality Commission to recommend, and the State Board of Education to adopt, curriculum frameworks, as provided. Existing law defines “curriculum framework” as an outline of the components of a given course of study designed to provide state direction to school districts in the provision of instructional programs. Existing law prohibits the state board from adopting instructional materials until the 2015–16 school year, except as provided.

~~The~~

*This* bill would require the state board to incorporate computer science curriculum content into the mathematics, science, history-social science, and language arts curriculum frameworks, as it deems appropriate, when those frameworks are next revised. The bill would require computer science curriculum to *be consistent with recognized computer science standards and* focus on foundational concepts in computer science by integrating basic skills in technology with simple ideas about computational thinking, communication, and collaboration, and being responsible citizens in a changing digital world, as specified. The bill

would require the state board to consult *with* classroom ~~instructors~~ *teachers* to ensure the age-appropriateness of instructional material. The bill would, upon the incorporation of computer science curriculum content into the curriculum frameworks, require the Superintendent of Public ~~Intervention~~ *Instruction* to identify and post on the State Department of Education's Internet Web site professional development resources for teaching computer science curriculum content. The bill would require its provisions to be implemented in a manner that does not result in new duties or programs being imposed on local educational agencies, as specified.

Vote: majority. Appropriation: no. Fiscal committee: yes.  
State-mandated local program: no.

*The people of the State of California do enact as follows:*

1     SECTION 1. Section 51211 is added to the Education Code,  
2     to read:  
3     51211. (a) The state board shall incorporate computer science  
4     curriculum content into the mathematics, science, history-social  
5     science, and language arts curriculum frameworks, as it deems  
6     appropriate, when those frameworks are next revised. This  
7     curriculum *shall be consistent with recognized computer science*  
8     *standards and* shall focus on foundational concepts in computer  
9     science by integrating basic skills in technology with simple ideas  
10    about computational thinking, communication, and collaboration,  
11    and being responsible citizens in a changing digital world.  
12    (b) Computer science instruction shall be designed to help pupils  
13    learn all of the following:  
14    (1) Computational thinking, including, but not limited to, using  
15    technology resources to solve age-appropriate problems,  
16    understanding and using basic steps of algorithmic problem solving  
17    with computer-free exercises, demonstrating that a string of bits  
18    can be used to represent alphanumeric information, recognizing  
19    that software is created to control computer operations, and  
20    understanding the connections between computer science and other  
21    fields.  
22    (2) Collaboration, including, but not limited to, gathering  
23    information and communicating electronically, and using  
24    age-appropriate technology resources and tools to participate in

1 collaborative problem-solving activities for the purpose of  
2 developing solutions or products.

3 (3) Computer practice, including, but not limited to, using  
4 age-appropriate technology resources to gather, organize, and  
5 manipulate data, using technology tools for individual and  
6 collaborative writing, communication, and publishing activities,  
7 constructing a set of step-by-step instructions to be acted out, and  
8 identifying a wide range of jobs that require knowledge or use of  
9 computing.

10 (4) Computers and communication devices, including, but not  
11 limited to, demonstrating an appropriate level of proficiency with  
12 input and output devices, understanding the pervasiveness of  
13 computers in daily life, and identifying factors that distinguish  
14 humans from machines.

15 (5) Community, global, and ethical impacts, including, but not  
16 limited to, practicing responsible digital citizenship in the use of  
17 technology, identifying the social and ethical impacts of technology  
18 on personal life and society, and evaluating the accuracy, relevance,  
19 and biases of electronic information sources.

20 (c) In implementing this section, the state board shall consult  
21 *with* classroom—~~instructors~~ *teachers* to ensure the  
22 age-appropriateness of instructional material.

23 (d) Upon incorporating computer science curriculum content  
24 into the mathematics, science, history-social science, and language  
25 arts curriculum frameworks at their next revision, the  
26 Superintendent shall identify and post on the department's Internet  
27 Web site professional development resources for teaching computer  
28 science curriculum content.

29 (e) This section shall be implemented in a manner that does not  
30 result in new duties or programs being imposed on local  
31 educational agencies. In that regard, the Legislature finds and  
32 declares that this section does not mandate costs to local  
33 educational agencies, and that materials used to comply with this  
34 subdivision shall be part of the normal instructional materials  
35 purchased by local educational agencies in their normal course of  
36 business and purchasing cycles.